

REMARKS

Claims 27-47 and 49-71 are pending in this application.

Claims 27-41 and 49-71 have been rejected under 35 USC § 112, second paragraph for being indefinite. Applicants respectfully submit that this rejection cannot be sustained. The Section 112 rejection has been made because "first the applicant recites that a valve flap having a first portion [is] attached to the valve body, [but] then the applicant recites that the valve flap is not attached to the body." The Examiner believes that the claim is indefinite since reference is made to the valve flap being attached and not attached to the valve body in the independent claim. Specifically, the claim indicates that the valve flap has a first portion that is attached to the valve body. The claim also states, however, that the flap exhibits a curvature when it is not attached to the valve body and that at least a portion of that curvature is at least partially flattened when the flap seals the valve opening. Thus, in the words of the claim, the valve flap is indeed attached to the valve body, but it exhibits a curvature when it is not attached to the valve body. This particular curvature becomes at least partially flattened when the valve flap seals the valve opening. In other words, the flap has a curvature built into it that becomes at least partially flat when the flap is attached to the valve body and seals the opening. The preexisting curvature and the partial flattening are beneficial in that they create a bias of the valve flap towards the valve opening to cause the flap to seal the valve opening. Applicants accordingly submit that there is no inconsistency in the claim language and that a person of ordinary skill can readily understand it. Thus, applicants will not amend the claims at this time.

In regard to the prior art rejection, applicants submit that claims 27-34 and 38-44 are not anticipated by U.S. Patent 2,999,498 to Matheson. Matheson shows a flap that may be precurved as illustrated in Figure 6. Matheson, however, states that the diaphragm 9 "may be a flat disc but is preferably molded in an arcuate cross-section, as shown, but preferably of greater radius of curvature, such as, for example, 3 ¼ inch radius so that the diaphragm rim portion will be deformed from its normal position to assure constant seating engagement with the break edges 8b, 8c, and 8d."¹ The Matheson flap exhibits a curvature after it is mounted to the valve sheet (see Figure 2), but Matheson does not state that its precurved flap is partially flattened. To the contrary, Matheson illustrates a curved flap in the mounted position (Figure 2). Additionally,

Matheson states that the mounted flap preferably has a greater radius of curvature that "will be deformed from its normal position to ensure constant seating engagement." The greater radius of curvature would suggest that the diaphragm becomes increasingly curved when mounted to the valve seat rather than being at least partially flattened. Nowhere does Matheson state that the valve flap becomes partially flattened once mounted to the valve seat. As such, Matheson is teaching away from applicants' invention rather than suggesting it. Accordingly, applicants believe that the rejection under 35 USC § 102 cannot be sustained.

Claims 35 and 45 have been rejected under 35 USC § 103 for claiming subject matter that would have been obvious over Matheson. Applicants respectfully submit that this rejection also cannot be sustained. As indicated above, Matheson does not teach or suggest a valve flap that has a curvature to it that becomes at least partially flattened when the valve flap seals the opening. Matheson suggests that the radius is reduced, which would imply that the flap has an increase curvature not a partial flattening.

For the above reasons, applicants respectfully request that the outstanding prior art rejections and the rejection under 35 USC § 112 be reconsidered.

Respectfully submitted,

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¹ Column 3, lines 11-18.